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PTO/SB/21 (09-04)

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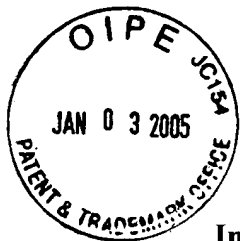
|  |                      |                        |           |
|--|----------------------|------------------------|-----------|
| <b>TRANSMITTAL FORM</b><br><br><i>REFERENCES</i><br><br>(to be used for all correspondence after initial filing) | Application Number   | 10/802,011             |           |
|  | Filing Date          | 03/16/2004             |           |
|  | First Named Inventor | Ba-Zhong Shen, Ph.D.   |           |
|  | Art Unit             | 2631                   |           |
|  | Examiner Name        | n/a                    |           |
| Total Number of Pages in This Submission   | 10                   | Attorney Docket Number | BP3134CIP |

| ENCLOSURES (Check all that apply)   |  |  |
|---|--|--|
| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached (via credit card payment form PTO-2038)<br><input type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input checked="" type="checkbox"/> Information Disclosure Statement (including hard copies of non-U.S. patent reference)<br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Reply to Missing Parts/Incomplete Application<br><input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation<br><input type="checkbox"/> Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) _____<br><input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC<br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):<br><br>see remarks below |
| <b>Remarks</b> The following are also being submitted herewith:<br>1. cover sheet (2 pages)<br>2. Cover letter from foreign associate and European Search Report (5 pages)<br>3. IDS forms (PTO/SB/08A, 1 sheet and PTO/SB/08B, 1 sheet)<br>4. hard copies of non-U.S. patent references<br>5. return postcard  |  |  |
| <b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>   |  |  |
| Firm Name   | Garlick Harrison & Markison, LLP (USPTO CN 34399)  |  |
| Signature   | /SXShort/  |  |
| Printed name  | Shayne X. Short, Ph.D.   |  |
| Date  | 12/23/2004   | Reg. No. 45,105  |

| CERTIFICATE OF TRANSMISSION/MAILING   |            |                 |
|---|------------|-----------------|
| I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below: |            |                 |
| Signature   |            |                 |
| Typed or printed name   | Janice Ivy | Date 12/23/2004 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**PATENT APPLICATION  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Inventor(s):** Ba-Zhong Shen, Ph.D.,  
Hau Thien Tran, and  
Dr. Kelly Brian Cameron

**Examiner:** n/a

**Application Serial No:** 10/802,011  
**Application Filing Date:** 03/16/2004

**Art Group:** 2631

**Confirmation No:** 4929

**Patent No:** n/a

**Attorney Docket No:** BP3134CIP

**Patent Issue Date:** n/a

**Title:** LDPC (Low Density Parity Check) coded modulation hybrid decoding using non-Gray code maps for improved performance

Date: 12/23/2004

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir or Madam:

It is requested that the enclosed reference(s) listed on the attached Information Disclosure Statement by Applicant be considered by the Examiner in connection with the above-identified patent application and be made of record therein. A European Search Report has been made for a related EP patent application. The cover letter provided by our foreign associate and the actual European Search Report are being submitted herewith in addition to copies of the reference(s) cited within the European Search Report.

Certification Under 37 C.F.R. § 1.97(e)(1)

I hereby certify that the corresponding enclosed reference(s) were cited in a European Search Report (copy enclosed) dated October 12, 2004 (10/12/2004) from the European Patent Office concerning European Patent Application No. 04009997.0 (Attorney Docket No. BP3134EP), not more than three months prior to the filing of this Information Disclosure Statement by Applicant.

Independent consideration and acknowledgment of the enclosed references is respectfully requested.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present patent application, or if the Examiner has any additional questions or concerns.

RESPECTFULLY SUBMITTED,

By:                     /SXShort/                    

Shayne X. Short, Ph.D.

Reg. No. 45,105

Direct Phone: (512) 825-1145

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**Complete if Known**

*(Use as many sheets as necessary)*

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|-------|---|----|---|
| Sheet | 1 | of | 2 |
|-------|---|----|---|

|                        |                      |
|------------------------|----------------------|
| Application Number     | 10/802,011           |
| Filing Date            | 03/16/2004           |
| First Named Inventor   | Ba-Zhong Shen, Ph.D. |
| Art Unit               | 2631                 |
| Examiner Name          | n/a                  |
| Attorney Docket Number | BP3134CIP            |

[illegible][illegible]Date  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language. Translation is attached.

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

|                               |                             |                      |
|-------------------------------|-----------------------------|----------------------|
| Sheet <b>2</b> of <b>2</b>    | <b>Application Number</b>   | 10/802,011           |
|                               | <b>Filing Date</b>          | 03/16/2004           |
|                               | <b>First Named Inventor</b> | Ba-Zhong Shen, Ph.D. |
|                               | <b>Art Unit</b>             | 2631                 |
|                               | <b>Examiner Name</b>        | n/a                  |
| <b>Attorney Docket Number</b> |                             | BP3134CIP            |

**NON PATENT LITERATURE DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.                                       | T <sup>2</sup> |
|--------------------|-----------------------|---|----------------|
|                    |                       | XIAO-YU HU; ELEFThERIOU, E.; ARNOLD, D.-M.; DHOLAKIA, A.: "Efficient Implementations of the Sum-Product Algorithm for Decoding LDPC Codes" GLOBAL TELECOMMUNICATIONS CONFERENCE, 2001. GLOBECOM '01. IEEE, vol. 2, November 29, 2001 (11/29/2001), pages 1036-1036E, XP002286249 *the whole document* |                |
|                    |                       | RAVI NARAYANASWAMI: "Coded Modulation with Low Density Parity Check Codes" June 2001 (2001-06), TEXAS UNIVERSITY, US, XP002286262, page 6-page 12; page 13-page 24  |                |
|                    |                       | MITTELHOLZER T ET AL: "Reduced-complexity decoding of low density parity check codes for generalized partial response channels" IEEE TRANSACTIONS ON MAGNETICS, IEEE INC. NEW YORK, US, vol. 37, no. 2 pt1, March 2001 (2001-03), pages 721-728, XPOO2177074 ISSN: 0018-9464 *the whole document*     |                |
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|---------------------------|--|------------------------|--|
| <b>Examiner Signature</b> |  | <b>Date Considered</b> |  |
|---------------------------|--|------------------------|--|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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